

RECEIVED

Please type a plus sign (+) inside this box → ☐

NOV 03 2003

PTO/SB/8A (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO		TECH CENTER 1600/2900		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT  (use as many sheets as necessary)		Application Number		09/626,096	
		Filing Date		July 26, 2000	
		First Named Inventor		Umek, R.	
		Group Art Unit		1645	
		Examiner Name		Not Yet Assigned	
Sheet	1	of	11	Attorney Docket Number A-68271-2/RFT/RMS/RMK	

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
HGC	1	4,707,352		Stavrianopoulos	11/1987	
	2	4,707,440		Stavrianopoulos	11/1987	
	3	4,711,955		Ward et al.	12/1987	
	4	4,755,458		Rabbani et al.	7/1988	
	5	4,840,893		Hill et al.	6/1989	
	6	4,849,513		Smith et al.	7/1989	
	7	4,868,103		Stavrianopoulos et al.	9/1989	
	8	4,894,325		Englehardt et al.	1/1990	
	9	4,943,523		Stavrianopoulos	7/1990	
	10	4,952,685		Stavrianopoulos	8/1990	
	11	4,994,373		Stavrianopoulos	2/1991	
	12	5,002,885		Stavrianopoulos	3/1991	
	13	5,013,831		Stavrianopoulos	5/1991	
	14	5,082,830		Brakel et al.	1/1992	
	15	5,175,269		Stavrianopoulos	12/1992	
	16	5,241,060		Englehardt et al.	8/1993	
	17	5,278,043		Bannwarth et al.	1/1995	
	18	5,312,527		Mikkelsen et al.	5/1994	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>2</sup> (if known)				
HGC	19	EP	0 234 938	A2	Cranfield Inst. of Tech.	2/1987		
HGC	20	EP	0 229 943	B1	Molecular Biosystems Inc.	7/1987		
HGC	21	EP	0 599 337	A2	Canon Kabushiki Kaisha	1/1994		
HGC	22	EP	0 063 879	A2	Yale University	11/1982		
HGC	23	EP	0 515 615		Boehringer Mannheim	9/1996		
HGC	24	CA	2 090 904	A1	F. Hoffman-La Roche	9/1993		
HGC	25	JP	238,166	A	Mitsubishi Corp.	1988	abstract	
HGC	26	JP	6-41183	A2	Mitsubishi Corp.	1994		

Examiner Signature	<i>Michael H. Caliente</i>	Date Considered	5/25/04
--------------------	----------------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Please type a plus sign (+) inside this box



PTO/SB/8A (08-00)  
Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/PTO		<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)		Application Number	09/626,096
		Filing Date	July 26, 2000
		First Named Inventor	Umek, R.
		Group Art Unit	1645
		Examiner Name	Not Yet Assigned
Sheet 2 of 11	Attorney Docket Number	A-68271-2/RFT/RMS/RMK	

RECEIVED  
 NOV 03 2008  
 TECH CENTER 1600/2300

U.S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code <sup>2</sup> (if known)			
hcc	27	5,328,824		Ward et al.	7/1994	
	28	5,403,451		Riviello et al.	4/1995	
	29	5,449,767		Ward et al.	9/1995	
	30	5,472,881		Beebe et al.	12/1995	
	31	5,476,928		Ward et al.	12/1995	
	32	5,552,270		Khrapko et al.	9/1996	
	33	5,565,552		Magda et al.	10/1996	
	34	5,573,906		Bannwarth et al.	11/1996	
	35	5,591,578		Meade et al.	1/1997	
	36	5,595,908		Fawcett et al.	1/1997	
	37	5,601,982		Sargent et al.	2/1997	
	38	5,620,850		Bamdad et al.	4/1997	
	39	5,705,348		Meade et al.	1/1998	
	40	5,741,700		Ershov et al.	4/1998	
	41	5,756,050		Ershov et al.	5/1998	
	42	5,770,369		Meade et al.	6/1998	
	43	5,770,721		Ershov et al.	6/1998	
	44	5,776,672		Hashimoto et al.	7/1998	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>2</sup> (if known)				
<i>hcc</i>	45	WO	86/05815	A1	Genetics International Inc.	3/1985		
<i>hcc</i>	46	WO	90/05732	A1	Columbia Univ.	5/1990		
<i>hcc</i>	47	WO	92/10757	A1	Boehringer Mannheim	6/1992		
<i>hcc</i>	48	WO	93/22678	A2	Mass. Inst. of Technology	11/1993		
<i>hcc</i>	49	WO	93/10267	A1	IGEN, Inc.	5/1993		
<i>hcc</i>	50	WO	94/22889	A1	Cis Bio International	10/1994		
<i>hcc</i>	51	WO	95/15971	A2	Calif. Inst. of Technology	6/1995		
<i>hcc</i>	52	WO	96/40712	A1	Calif. Inst. of Technology	12/1996		

Examiner Signature	<i>Scott A. Calamita</i>	Date Considered	5/25/01
--------------------	--------------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

(1050128)

# RECEIVED

Please type a plus sign (+) inside this box ☐

NOV 03 2003

PTO/SB/8B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for Form 1449B, PTO		TECH CENTER 1600/2900		Complete if Known	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)		Application Number		09/626,096	
		Filing Date		July 26, 2000	
		First Named Inventor		Umek, R.	
		Group Art Unit		1645	
		Examiner Name		Not Yet Assigned	
Sheet	4	of	11	Attorney Docket Number	A-68271-2/RFT/RMS/RMK

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	70	Aizawa et al., "Integrated Molecular Systems for Biosensors," Sensors and Actuators B, B@\$ (Nos 1/3) Part 1:1-5 (March 1995).	
HGC	71	Albers et al., "Design of Novel Molecular Wires for Realizing Long-Distance Electron Transfer," Biochemistry and Bioenergetics, 42:25-33 (1997).	
HGC	72	Alleman, K.S., et al., "Electrochemical Rectification at a Monolayer-Modified Electrode," J. Phys. Chem., 100:17050-17058 (1996).	
HGC	73	Arkin et al. "Evidence for Photoelectron Transfer Through DNA Intercalation," J. Inorganic Biochem. Abstracts, 6th International Conference on Bioinorganic Chemistry, 51(1) & (2):526 (1993).	
HGC	74	Barisci et al., "Conducting Polymer Sensors," TRIP, 4(9):307-311 (1996).	
HGC	75	Baum, R. M., "Views on Biological, Long-Range Electron Transfer Stir Debate," C&EN, pp 20-23 (1993).	
HGC	76	Bechtold, R., et al., "Ruthenium-Modified Horse Heart Cytochrome c: Effect of pH and Ligation on the Rate of Intramolecular Electron Transfer between Ruthenium(II) and Heme(III)," J. Phys. Chem., 90(16):3800-3804 (1986).	
HGC	77	Bidan, "Electroconducting conjugated polymers: new sensitive matrices to build up chemical or electrochemical sensors. A Review.," Sensors and Actuators, B6:45-56 (1992).	
HGC	78	Biotechnology and Genetics: Genetic Screening Integrated Circuit," The Economist (February 25-March 3, 1995).	
HGC	79	Blonder et al., "Three-dimensional Redox-Active layered Composites of Au-Au, Ag-Ag and Au-Ag Colloids," Chem. Commun. 1393-1394 (1998).	
HGC	80	Boguslavsky, L. et al., "Applications of redox polymers in biosensors," Solid State Ionics, 60:189-197 (1993).	
HGC	81	Bowler, B. E., et al., "Long-Range Electron Transfer in Donor (Spacer) Acceptor Molecules and Proteins," Progress in Inorganic Chemistry: Bioinorganic Chemistry, 38:259-322 (1990).	
HGC	82	Brun, A. M., et al., "Photochemistry of Intercalated Quaternary Diazaaromatic Salts," J. Am. Chem. Soc., 113:8153-8159 (1991).	
HGC	83	Bumm, et al., "Are Single Molecular Wires Conducting?," Science 271:1705-1707 (1996).	
HGC	84	Cantor, C.R. et al., "Report on the Sequencing by Hybridization Workshop," Genomics, 13:1378-1383 (1992).	
HGC	85	Carr et al., "Novel Electrochemical Sensors for Neutral Molecules," Chem. Commun., 1649-1650 (1997).	
HGC	86	Carter et al., "Voltammetric Studies of the Interaction of Metal Chelates with DNA. 2. Tris-Chelated Complexes of Cobalt(III) and Iron(II) with 10-Phenanthroline and 2,2'-Bipyridine," J. Am. Chem. Soc., 111:8901-8911 (1989).	

Examiner Signature	<i>Arthur H. Albert</i>	Date Considered	5/25/2004
--------------------	-------------------------	-----------------	-----------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

# RECEIVED

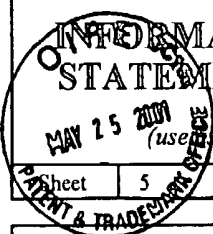
Please type a plus sign (+) inside this box → ☐

NOV 03 2003

PTO/SB/8B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		<b>TECH CENTER 1600/2000</b>	<b>Complete if Known</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> 		Application Number	09/626,096	
		Filing Date	July 26, 2000	
		First Named Inventor	Umek, R.	
		Group Art Unit	1645	
		Examiner Name	Not Yet Assigned	
		Attorney Docket Number	A-68271-2/RFT/RMS/RMK	
Sheet	5	of	11	

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
ACC	87	Chang, I-Jy, et al., "High-Driving-Force Electron Transfer in Metalloproteins: Intramolecular Oxidation of Ferrocycytochrome c by Ru(2,2'-bpy) <sub>2</sub> (im)(His-33) <sup>3+</sup> ," <i>J. Am. Chem. Soc.</i> , 113:7056-7057 (1991).	
ACC	88	Chidsey, et al., "Coadsorption of Ferrocene-Terminated and Unsubstituted Alkanethiols on Gold" Electroactive Self-Assembled Monolayers," <i>J. Am. Chem. Soc.</i> , 112:4301-4306 (1990).	
ACC	89	Chidsey, C.E.D., et al., "Free Energy and Temperature Dependence of Electron Transfer at the Metal Electrolyte Interface," <i>Science</i> , 251:919-922 (1991).	
ACC	90	Chrisey, et al., "Covalent attachment of synthetic DNA to self-assembled monolayer films," <i>Nucleic Acids Research</i> , 24(15):3031-3039 (1996).	
ACC	91	Clery, "DNA Goes Electric," <i>Science</i> , 267:1270 (1995).	
	92	<i>Commerce Business Daily Issue</i> of September 26, 1996 PSA#1688.	
ACC	93	Davis, L. M., et al., "Electron Donor Properties of the Antitumour Drug Amsacrine as Studied by Fluorescence Quenching of DNA-Bound	
ACC	94	Davis, L. M., et al., "Elements of biosensor construction," <i>Enzyme Microb. Technol.</i> 17:1030-1035 (1995).	
ACC	95	Degani et al., "Direct Electrical Communication between Chemically Modified Enzymes and Metal Electrodes. 2. Methods for Bonding Electron-Transfer Relays to Glucose Oxidase and D-Amino-Acid Oxidase," <i>J. Am. Chem. Soc.</i> 110:2615-2620 (1988).	
ACC	96	Degani, Y., et al., "Electrical Communication between Redox Centers of Glucose Oxidase and Electrodes via Electrostatically and Covalently Bound Redox Polymers," <i>J. Am. Chem. Soc.</i> , 111:2357-2358 (1989).	
ACC	97	Degani, Y., et al., "Direct Electrical Communication between Chemically Modified Enzymes and Metal Electrodes. 1. Electron Transfer from Glucose Oxidase to Metal Electrodes via Electron Relays, Bound Covalently to the Enzyme," <i>J. Phys. Chem.</i> , 91(6):1285-1288 (1987).	
ACC	98	Deinhammer, R.S., et al., "Electronchemical Oxidation of Amine-containing compounds: A Route to the Surface Modification of glassy carbon electrodes," <i>Langmuir</i> , 10:1306-1313 (1994).	
ACC	99	Dreyer, G. B., et al., "Sequence-specific cleavage of single-stranded DNA: Oligodeoxynucleotide-EDTA-Fe(II)," <i>Proc. Natl. Acad. Sci. USA</i> , 82:968-972 (1985).	
ACC	100	Drobyshev, A. et al., "Sequence Analysis by Hybridization with Oligonucleotide Microchip: Identification of $\beta$ -thalassemia Mutations," <i>Gene</i> , 188:45-52 (1997).	
ACC	101	Dubiley, S. et al., "Fractionation, phosphorylation and Ligation on Oligonucleotide Microchips to Enhance Sequencing by Hybridization," <i>Nucleic Acids Research</i> , 25(12):2259-2265 (1997).	
ACC	102	Durham, B., et al., "Electron-Transfer Kinetics of Singly Labeled Ruthenium(II) Polypyridine Cytochrome c Derivatives," <i>Advances in Chemistry Series</i> , 226:181-193 (1990).	

Examiner Signature		Date Considered	5/25/04
--------------------	-------------------------------------------------------------------------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

# RECEIVED

Please type a plus sign (+) inside this box → ☐

NOV 03 2003

PTO/SB/8B (08-00)  
Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		<b>TECH CENTER</b>		<i>Complete if Known</i>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <small>(use as many sheets as necessary)</small> <div style="border: 1px solid black; border-radius: 50%; width: 100px; height: 100px; display: flex; align-items: center; justify-content: center; margin: 10px auto;"> MAY 25 2001  U.S. PATENT &amp; TRADEMARK OFFICE </div>		Application Number		09/626,096	
		Filing Date		July 26, 2000	
		First Named Inventor		Umek, R.	
		Group Art Unit		1645	
		Examiner Name		Not Yet Assigned	
Sheet 6 of 11		Attorney Docket Number		A-68271-2/RFT/RMS/RMK	

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
Acc	103	Durham, B., et al., "Photoinduced Electron-Transfer Kinetics of Singly Labeled Ruthenium Bis(bipyridin) Dicarboxybipyridine Cytochrome <i>c</i> Derivatives," <i>Biochemistry</i> , 28:8659-8665 (1989).	
Acc	104	Elghanian et al., "Selective Colorimetric Detection of Polynucleotides Based on the Distance-Dependent Optical Properties of Gold Nanoparticles," <i>Science</i> , 277:1078-1081 (1997).	
Acc	105	Elias, H., et al., "Electron-Transfer Kinetics of Zn-Substituted Cytochrome <i>c</i> and Its Ru(NH <sub>3</sub> ) <sub>5</sub> (Histidine-33) Derivative," <i>J. Am. Chem. Soc.</i> , 110:429-434 (1988).	
Acc	106	Farver, O., et al., "Long-range intramolecular electron transfer in azurins," <i>Proc. Natl. Acad. Sci. USA</i> , 86:6968-6972 (1989).	
Acc	107	Fotin, A. et al., "Parallel Thermodynamic Analysis of Duplexes on Oligodeoxyribonucleotide Microchips," <i>Nucleic Acids Research</i> , 216(6):1515-1521 (1998).	
Acc	108	Fox, M. A., et al., "Light-Harvesting Polymer Systems," <i>C&amp;EN</i> , pages 38-48 (March 15, 1993).	
Acc	109	Fox, L. S., et al., "Gaussian Free-Energy Dependence of Electron-Transfer Rates in Iridium Complexes," <i>Science</i> , 247:1069-1071 (1990).	
Acc	110	Francois, J-C., et al., "Periodic Cleavage of Poly(dA) by Oligothymidylates Covalently Linked to the 1,10-Phenanthroline-Copper Complex," <i>Biochemistry</i> , 27:2272-2276 (1988).	
Acc	111	Friedman, A. E., et al., "Molecular 'Light Switch' for DNA: Ru(bpy) <sub>3</sub> (dppz) <sup>2+</sup> ," <i>J. Am. Chem. Soc.</i> , 112:4960-4962 (1990).	
Acc	112	Fromherz, P., et al., "Photoinduced Electron Transfer in DNA Matrix from Intercalated Ethidium to Condensed Methylviologen," <i>J. Am. Chem. Soc.</i> , 108:5361-5362 (1986).	
Acc	113	Gardner, et al., "Application of conducting polymer technology in microsystems," <i>Sensors and Actuators</i> , A51:57-66 (1995).	
Acc	114	Gregg, B. A., et al., "Redox Polymer Films Containing Enzymes. 1. A Redox-Conducting Epoxy Cement: Synthesis, Characterization, and Electrocatalytic Oxidation of Hydroquinone," <i>J. Phys. Chem.</i> , 95:5970-5975 (1991).	
Acc	115	Gregg, B. A., et al., "Cross-linked redox gels containing glucose oxidase for amperometric biosensor applications," <i>Anal. Chem.</i> , 62:258-263 (1990).	
Acc	116	Guschin, D. et al., "Manual Manufacturing of Oligonucleotide, DNA, and Protein Microchips," <i>Analytical Biochemistry</i> , 250:203-211 (1997).	
Acc	117	Guschin, D. et al., "Oligonucleotide Microchips as Genosensors for Determinative and Environmental Studies in Microbiology," 63(6):2397-2402 (1997).	
Acc	118	Hashimoto, et al., "Sequence-Specific Gene Detection with a Gold Electrode Modified with DNA Probes and an Electrochemically Active Dye," <i>Anal. Chem.</i> 66:3830-3833 (1994).	
Acc	119	Hegner, et al., "Immobilizing DNA on gold via thiol modification for atomic force microscopy imaging in buffer solutions," <i>FEBS</i> 336(3):452-456 (1993).	

Examiner Signature		Date Considered	5/25/2004
--------------------	--	-----------------	-----------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

# RECEIVED

Please type a plus sign (+) inside this box → ☐

NOV 03 2003

PTO/SB/8B (08-00)  
Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		<b>Complete if Known</b>	
<div style="border: 2px solid black; border-radius: 50%; padding: 10px; display: inline-block;"> <p style="margin: 0;">INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p style="margin: 0; font-size: small;">(use as many sheets as necessary)</p> <p style="margin: 0; font-weight: bold; transform: rotate(-45deg);">MAY 25 2001</p> <p style="margin: 0; font-size: x-small;">U.S. PATENT &amp; TRADEMARK OFFICE</p> </div>		Application Number	09/626,096
		Filing Date	July 26, 2000
		First Named Inventor	Umek, R.
		Group Art Unit	1645
		Examiner Name	Not Yet Assigned
		Attorney Docket Number	A-68271-2/RFT/RMS/RMK
Sheet	7	of	11

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
HCC	12	Heller, A., "Electrical Wiring of Redox Enzymes," <i>Acc. Chem. Res.</i> , 23:128-134 (1990).	
HCC	121	Heller et al., "Fluorescent Energy Transfer Oligonucleotide Probes," <i>Fed. Proc.</i> 46(6):1968 (1987) Abstract No. 248.	
HCC	122	Heller, A., et al., "Amperometric biosensors based on three-dimensional hydrogel-forming epoxy networks," <i>Sensors and Actuators</i> , 13-14:180-183 (1993).	
	123	Ho "DNA-Mediated Electron Transfer and Application to 'Biochip' Development," <i>Abstract. Office of Naval Research</i> (Report Date: July 25, 1991) 1-4, RR04106.	
HCC	124	Hobbs et al., "Polynucleotides Containing 2'-Amino-2'-deoxyribose and 2'-Azido-2'-deoxyribose," <i>Biochemistry</i> , 12(25):5138-5145 (1973).	
HCC	125	Hsung, et al., "Thiophenol Protecting Groups for the Palladium-Catalyzed Heck Reaction: Efficient Syntheses of Conjugated Arylthiols," <i>Tetrahedron Letters</i> . 36(26):4525-4528 (1995).	
HCC	126	Hsung, et al., "Synthesis and Characterization of Unsymmetric Ferrocene-Terminated Phenylethynyl Oligomers," <i>Organometallics</i> , 14:4808-4815 (1995).	
HCC	127	Jenkins et al., "A Sequence-Specific Molecular Light Switch: Tebhering of an Oligonucleotide to a Dipyrrophenazine Complex of Ruthenium (II), <i>J. Am. Chem. Soc.</i> , 114:8736-8738 (1992).	
HCC	128	Johnston et al., "Trans-Dioxorhenium(V)-Mediated Electrocatalytic Oxidation of DNA at Indium Tin-Oxide Electrodes: Voltammetric Detection of DNA Cleavage in Solution," <i>Inorg. Chem.</i> , 33:6388-6390 (1994).	
HCC	129	Kamat et al., <i>J. Phys. chem.</i> , 93(4):1405-1409 (1989). Abstract	
HCC	130	Katritzky, et al., "Pyridylethylation - A New Protection Method for Active Hydrogen Compounds," <i>Tetrahedron Letters</i> , 25(12):1223-1226 (1984).	
HCC	131	Kelley, S.O. and J.K. Barton, "Electrochemistry of Methylene Blue Bound to a DNA-Modified Electrode," <i>Bioconjugate Chem.</i> , 8:31-37 (1997).	
HCC	132	Kojima et al., "A DNA Probe of Ruthenium Bipyridine Complex Using Photocatalytic Activity," <i>Chemistry Letter</i> , pp 1889-1982 (1989).	
HCC	133	Korri-Yousoufi et al., "Toward Bioelectronics: Specific DNA Recognition Based on an Oligonucleotide-Functionalized Polypyrrole," <i>J. Am. Chem. Soc.</i> , 119(31):7388-7389 (1997).	
HCC	134	Laviron, E., "A.C. Polarography and Faradaic Impedance of Strongly Adsorbed Electroactive Species. Part I: Theoretical and Experimental Study of a Quasi-Reversible Reaction in the Case of a Langmuir Isotherm," <i>J. Electroanal. Chem.</i> , 97:135-149 (1979).	
HCC	135	Laviron, E., "A.C. Polarography and Faradaic Impedance of Strongly Adsorbed Electroactive Species. Part III: Theoretical Complex Plane Analysis for a Surface Redox Reaction," <i>J. Electroanal. Chem.</i> , 105:35-42 (1979).	
HCC	136	Lee, et al., "Direct Measurement of the Forces Between Complementary Strands of DNA," <i>Science</i> , 266:771-773 (1994).	

Examiner Signature		Date Considered	5/25/04
--------------------	--	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

# RECEIVED

Please type a plus sign (+) inside this box → ☐

NOV 03 2003

PTO/SB/8B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		<b>TECH CENTER 1800/2900</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (Use as many sheets as necessary)  <div style="border: 1px solid black; border-radius: 50%; padding: 10px; display: inline-block;">           MAY 25 2003            PATENT &amp; TRADEMARK OFFICE         </div>		<i>Complete if Known</i>	
		Application Number	09/626,096
		Filing Date	July 26, 2000
		First Named Inventor	Umek, R.
		Group Art Unit	1645
		Examiner Name	Not Yet Assigned
Sheet 2 of 11	Attorney Docket Number	A-68271-2/RFT/RMS/RMK	

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
ACC	137	Lenhard, J.R., et al., "Part VII Covalent Bonding of a Reversible- Electrode Reactant to Pt Electrodes Using an organosilane Reagent" <i>J. Electronal. Chem.</i> , 78:195-201 (1977).	
ACC	138	Lincoln et al., "Shorting Circuiting the Molecular Wire," <i>J. Am. Chem. Soc.</i> , 119(6)1454-1455 (1997).	
	139	Lipkin "Identifying DNA by the Speed of Electrons," <i>Science News</i> , 147(8):117 ( 1995).	
ACC	140	Livshits, M. et al., "Theoretical Analysis of the Kinetics of DNA Hybridization with Gel-Immobilized Oligonucleotides," <i>Biophysical Journal</i> , 71:2795-2801 (1996).	
ACC	141	Maskos, et al., "Oligonucleotide hybridisations on glass supports: a novel linker for oligonucleotide synthesis and hybridisation properties of oligonucleotides synthesised <i>in situ</i> ," <i>Nucleic Acids Research</i> , 20(7):1679-1684 (1992).	
ACC	142	McGee, et al., "2'-Amino-2'-deoxyuridine via an Intramolecular Cyclization of a Trichloroacetimidate," <i>J. Org. Chem.</i> , 61:781-785 (1996).	
ACC	143	Meade, T. J., et al., "Electron Transfer through DNA: Site-Specific Modification of Duplex DNA with Ruthenium Donors and Acceptors," <i>Angew Chem. Int. Ed. Engl.</i> , 34:352-354 (1995).	
ACC	144	Meade, T. J., "Driving-Force Effects on the Rate of Long-Range Electron Transfer in Ruthenium-Modified Cytochrome c," <i>J. Am. Chem. Soc.</i> , 111:4353-4356 (1989).	
ACC	145	Mestel, "'Electron Highway' Points to Identity of DNA," <i>New Scientist</i> , p. 21 (1995).	
ACC	146	Millan, K.M. and Mikkelsen, S.R., "Sequence-Selective Biosensor for DNA Based on Electroactive Hybridization Indicators," <i>Anal. Chem.</i> , 65:2317-2323 (1993).	
ACC	147	Millan, K.M., et al., "Covalent Immobilization of DNA onto Glassy Carbon Electrodes," <i>Electroanalysis</i> , 4(10):929-932 (1992).	
ACC	148	Millan, et al., "Voltammetric DNA Biosensor for Cystic Fibrosis Based on a Modified Carbon Paste Electrode," <i>Anal. Chem.</i> , 66:2943-2948 (1994).	
ACC	149	Miller, C., "Absorbed $\omega$ -Hydroxy Thiol Monolayers on Gold Electrodes: Evidence for Electron Tunneling to Redox Species in Solution," <i>J. Phys. Chem.</i> , 95:877-886 (1991).	
ACC	150	Mirkin et al., "A DNA-based Method for Rationally Assembling Nonoparticles into Macroscopic Materials," <i>Nature</i> , 382:607-609 (1996).	
	151	Mirzabekov, A. et al., "Dna Sequencing by Hybridization - a Megasequencing Method and a Diagnostic Tool," <i>Tibtech</i> , 12:27-32 (1994).	
ACC	152	Mitchell et al., "Programmed Assembly of DNA Functionalized Quantum Dots," <i>J. Am. Chem. Soc.</i> , 121:8122-8123 (1999).	
ACC	153	Mucic et al., "Synthesis and Characterization of DNA with Ferrocenyl Groups Attached to their 5'-Termini: Electrochemical Characterization of a Redox-Active Nucleotide Monolayer," <i>Chem. Commun.</i> , pp. 555-557 (1996).	

Examiner Signature		Date Considered	5/25/04
--------------------	--	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



# RECEIVED

Please type a plus sign (+) inside this box → ☐

NOV 03 2003

PTO/SB/8B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO <div style="text-align: center;"> <b>TECH CENTER 1600/2800</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>          (use as many sheets as necessary)  <div style="border: 1px solid black; border-radius: 50%; padding: 5px; display: inline-block;">           MAY 25 2004            U.S. PATENT &amp; TRADEMARK OFFICE         </div> </div>		<div style="text-align: right; font-size: small;">Complete if Known</div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td>09/626,096</td> </tr> <tr> <td>Filing Date</td> <td>July 26, 2000</td> </tr> <tr> <td>First Named Inventor</td> <td>Umek, R.</td> </tr> <tr> <td>Group Art Unit</td> <td>1645</td> </tr> <tr> <td>Examiner Name</td> <td>Not Yet Assigned</td> </tr> <tr> <td>Attorney Docket Number</td> <td>A-68271-2/RFT/RMS/RMK</td> </tr> </table>		Application Number	09/626,096	Filing Date	July 26, 2000	First Named Inventor	Umek, R.	Group Art Unit	1645	Examiner Name	Not Yet Assigned	Attorney Docket Number	A-68271-2/RFT/RMS/RMK
Application Number	09/626,096														
Filing Date	July 26, 2000														
First Named Inventor	Umek, R.														
Group Art Unit	1645														
Examiner Name	Not Yet Assigned														
Attorney Docket Number	A-68271-2/RFT/RMS/RMK														
Sheet 9	of 11														

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
AAC	154	Mucic et al., "DNA-Directed Synthesis of Binary Nanoparticle Network Materials," J. Am. Chem. Soc., 120:12674-12675 (1998).	
AAC	155	Murphy, C. J., et al., "Long-Range Photoinduced Electron Transfer Through a DNA Helix," Science, 262:1025-1029 (1993).	
AAC	156	Orellana, G., et al., "Photoinduced Electron Transfer Quenching of Excited Ru(II) Polypyridyls Bound to DNA: The Role of the Nucleic Acid Double Helix," Photochemistry and Photobiology, 54(4):499-509 (1991).	
AAC	157	Palecek, "From Polarography of DNA to Microanalysis with Nucleic Acid-Modified Electrodes," Electroanalysis, 8(1):7-14 (1996).	
AAC	158	Parinov, S., "DNA Sequencing by Hybridization to Microchip octa- and Decanucleotides Extended by Stacked Pentanucleotides," Nucleic Acids Research, 24(15):2998-3004 (1996).	
	159	Paterson, "Electric Genes: Current Flow in DNA Could Lead to Faster Genetic Testing," Scientific American, 33 (May 1995).	
AAC	160	Proudnikov, D. "Immobilization of DNA in Polyacrylamide Gel for the manufacture of DNA and DNA-Oligonucleotide Microchips," Analytical Biochemistry, 259:34-41 (1998).	
AAC	161	Proudnikov, D. et al., "Chemical Methods of DNA and RNA Fluorescent Labeling," Nucleic Acids Research, 24(22):4535-4542 (1996).	
AAC	162	Purugganan, M. D., et al., "Accelerated Electron Transfer Between Metal Complexes Mediated by DNA, Science, 241:1645-1649 (1988).	
AAC	163	Reimers et al., "Toward Efficient Molecular Wires and Switches: the Brooker Ions," Biosystems, 35:107-111 (1995).	
AAC	164	Rhodes, D. And A. Klug, "Helical Periodicity of DNA Determined by Enzyme Digestion," Nature, 286:573-578 (1980).	
	165	Risser, S. M., et al., "Electron Transfer in DNA: Predictions of Exponential Growth and Decay of Coupling with Donor-Acceptor Distance," J. Am. Chem. Soc., 115(6):2508-2510 (1993).	
AAC	166	Sato, Y., et al., "Unidirectional Electron Transfer at Self-Assembled Monolayers of 11-Ferrocenyl-1-undecanethiol on Gold," Bull. Chem. Soc. Jpn., 66(4):1032-1037 (1993).	
AAC	167	Satyanarayana, S., et al., "Neither Δ- nor Λ-Tris(phenanthroline)ruthenium(II) Binds to DNA by Classical Intercalation," Biochemistry, 31(39):9319-9324 (1992).	
AAC	168	Schreiber, et al., "Bis(purine) Complexes of trans-a <sub>2</sub> Pt <sup>II</sup> : Preparation and X-ray Structures of Bis(9-methyladenine) and Mixed 9-Methyladenine, 9-Methylguanine Complexes and Chemistry Relevant to Metal-Modified Nucleobase Triples and Quartets," J. Am. Chem. Soc. 118:4124-4132 (1996).	
AAC	169	Schuhmann, W., et al., "Electron Transfer between Glucose Oxidase and Electrodes via Redox Mediators Bound with Flexible Chains to the Enzyme Surface," J. Am. Chem. Soc., 113:1394-1397 (1991).	

Examiner Signature		Date Considered	5/25/04
--------------------	--	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

# RECEIVED

Please type a plus sign (+) inside this box → ☐

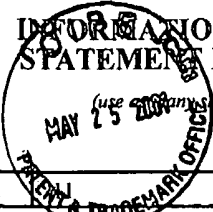
NOV 03 2003

PTO/SB/8B (08-00)

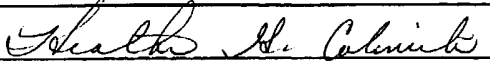
Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO		<b>TECH CENTER 1600/2900</b>	
<b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <small>(use additional sheets as necessary)</small> 		<b>Complete if Known</b>	
		Application Number	09/626,096
		Filing Date	July 26, 2000
		First Named Inventor	Umek, R.
		Group Art Unit	1645
		Examiner Name	Not Yet Assigned
Sheet 1 of 11	Attorney Docket Number	A-68271-2/RFT/RMS/RMK	

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
	185	Turro, N., et al. "Photoelectron Transfer Between Molecules Adsorbed in Restricted Spaces," <i>Photochem. Convers. Storage Sol. Energy, Proc. Int. Conf.</i> , 8th, pp 121-139 (1990).	
HCC	186	Uosake, K., et al., "A Self-Assembled Monolayer of Ferrocenylalkane Thiols on Gold as an Electron Mediator for the Reduction of Fe(III)-EDTA in Solution," <i>Electrochimica Acta.</i> , 36(11/12):1799-1801 (1991).	
HCC	187	Van Ness, J., et al., "A Versatile Solid Support System for Oligodeoxynucleotide Probe-Based Hybridization Assays," <i>Nucleic Acids Research</i> , 19(12):3345-3350 (1991).	
HCC	188	Velev et al., "In Situ Assembly of Colloidal Particles into Miniaturized Biosensors," <i>The ACS Journal of Surfaces and Colloids</i> , Langmuir, 15(11):3693-3698 (1999).	
HCC	189	Watson et al., "Hybrid Nanoparticles with Block Copolymer Shell Structures," <i>J. Am. Chem. Soc.</i> , 121:462-463 (1999).	
HCC	190	Weber, et al., "Voltammetry of Redox-Active Groups Irreversibly Adsorbed onto Electrodes. Treatment Using the Marcus Relation between Rate and Overpotential," <i>Anal. Chem.</i> , 66:3164-3172 (1994).	
HCC	191	Williams, et al., "Studies of oligonucleotide interactions by hybridisation to arrays: the influence of dangling ends on duplex yield," <i>Nucleic Acids Research</i> , 22(8):1365-1367 (1994).	
HCC	192	Winkler, J. R., et al., "Electron Transfer in Ruthenium-Modified Proteins," <i>Chem. Rev.</i> , 92:369-379 (1992).	
HCC	193	Xu, et al., "Immobilization and Hybridization of DNA on an Aluminum(III) Alkanebisphosphonate Thin Film with Electrogenenerated Chemiluminescent Detection," <i>J. Am. Chem. Soc.</i> , 117:2627-2631 (1995).	
HCC	194	Xu, et al., "Immobilization of DNA on an Aluminum(III) alkanebisphosphonate Thin Film with Electrogenenerated Chemiluminescent Detection," <i>J. Am. Chem. Soc.</i> , 116:8386-8387 (1994).	
HCC	195	Yang, et al., "Growth and Characterization of Metal(II) Alkanebisphosphonate Multilayer Thin Films on Gold Surfaces," <i>J. Am. Chem. Soc.</i> , 115:11855-11862 (1993).	
HCC	196	Yershov, G. et al., "DNA Analysis and Diagnostics on Oligonucleotide Microchips," <i>Proc. Natl. Acad. Sci. USA</i> , 93:4913-4918 (1996).	
HCC	197	Zhou, et al., "Fluorescent Chemosensors Based on Energy Migration in Conjugated Polymers: The Molecular Wire Approach to Increased Sensitivity," <i>J. Am. Chem. Soc.</i> , 117:12593-12602 (1995).	
HCC	198	Baner et al., "Signal amplification of padlock probes by rolling circle replication," <i>Nucleic Acids Research</i> , 26(22):5073-5078 (1998).	

Examiner Signature		Date Considered	5/25/04
--------------------	-------------------------------------------------------------------------------------	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

# RECEIVED

Please type a plus sign (+) inside this box → ☐

PTO/SB/8B (08-00)

Approved for use through 10/31/2002. OMB 0651-0031

NOV 03 2003

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449B/PTO <div style="text-align: center;"> <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <small>(use additional sheets as necessary)</small> </div> <div style="position: absolute; left: 100px; top: 100px; border: 1px solid black; border-radius: 50%; padding: 5px; text-align: center;">             MAY 25 2003              PATENT &amp; TRADEMARK OFFICE           </div>		<div style="text-align: right; font-weight: bold; font-size: small;">Complete if Known</div> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Application Number</td> <td>09/626,096</td> </tr> <tr> <td>Filing Date</td> <td>July 26, 2000</td> </tr> <tr> <td>First Named Inventor</td> <td>Umek, R.</td> </tr> <tr> <td>Group Art Unit</td> <td>1645</td> </tr> <tr> <td>Examiner Name</td> <td>Not Yet Assigned</td> </tr> <tr> <td>Attorney Docket Number</td> <td>A-68271-2/RFT/RMS/RMK</td> </tr> </table>		Application Number	09/626,096	Filing Date	July 26, 2000	First Named Inventor	Umek, R.	Group Art Unit	1645	Examiner Name	Not Yet Assigned	Attorney Docket Number	A-68271-2/RFT/RMS/RMK
Application Number	09/626,096														
Filing Date	July 26, 2000														
First Named Inventor	Umek, R.														
Group Art Unit	1645														
Examiner Name	Not Yet Assigned														
Attorney Docket Number	A-68271-2/RFT/RMS/RMK														
Sheet 10	of 11														

## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
HCC	170	Schumm, et al., "Iterative Divergent/Convergent Approach to Linear Conjugated Oligomers by Successive Doubling of the Molecular Length: A Rapid Route to a 128 Å-Long Potential Molecular Wire," <i>Angew. Chem. Int. Ed. Engl.</i> , 33(11):1360-1363 (1994).	
HCC	171	Sigal et al., "A Self-Assembled Monolayer for the Binding and Study of Histidine-Tagged Proteins by Surface Plasmon Resonance," <i>Anal. Chem.</i> , 68(3):490-497 (1996).	
	172	Sloop et al., "Metalloorganic labels for DNA sequencing and mapping," <i>New. J. Chem.</i> , 18: 317-326 (1994).	
HCC	173	Southern, et al., "Arrays of complementary oligonucleotides for analysing the hybridisation behaviour of nucleic acids," <i>Nucleic Acids Research</i> , 22(8):1368-1373 (1994).	
HCC	174	Storhoff et al., "One-Pot Colorimetric Differentiation of Polynucleotides with Single Base Imperfections Using Gold Nanoparticles Probes," <i>J. Am. Chem. Soc.</i> , 120:1959-1964 (1998).	
HCC	175	Strobel, S. A., et al., "Site-Specific Cleavage of a Yeast Chromosome by Oligonucleotide-Directed Triple-Helix Formation," <i>Science</i> , 249:73-75 (1990).	
HCC	176	Su, et al., "Interfacial Nucleic Acid Hybridization Studied by Random Primer <sup>32</sup> P Labelling and Liquid-Phase Acoustic Network Analysis," <i>Analytical Chemistry</i> , 66(6):769-777 (1994).	
HCC	177	Telser, J., et al., "DNA Oligomers and Duplexes Containing a Covalently Attached Derivative of Tris(2,2'-bipyridine)ruthenium(II): Synthesis and Characterization by Thermodynamic and Optical Spectroscopic Measurements," <i>J. Am. Chem. Soc.</i> , 111:7221-7226 (1989).	
HCC	178	Telser, J., et al., "DNA Duplexes Covalently Labeled at Two Sites: Synthesis and Characterization by Steady-State and Time-Resolved Optical Spectroscopies," <i>J. Am. Chem. Soc.</i> , 111:7226-7232 (1989).	
HCC	179	Timofeev, E. et al., "Regioselective Immobilization of Short Oligonucleotides to Acrylic Copolymer Gel," <i>Nucleic Acids Research</i> , 24(16): 3142-3148 (1996).	
HCC	180	Timofeev, E. et al., "Methidium Intercalator Inserted into Synthetic Oligonucleotides," <i>Tetrahedron Letters</i> , 37(47):8467-8470 (1996).	
HCC	181	Tour, "Conjugated Macromolecules of Precise Length and Constitution. Organic Synthesis for the Construction of Nanoarchitectures," <i>Chem. Rev.</i> , 96:537-553 (1996).	
HCC	182	Tour, et al., "Self-Assembled Monolayers and Multilayers of Conjugated Thiols, α-ω-Dithiols, and Thioacetyl-Containing Adsorbates. Understanding Attachments between Potential Molecular Wires and Gold Surfaces," <i>J. Am. Chem. Soc.</i> , 117:9529-9534 (1995).	
HCC	183	Tullius, T.D. and B.A. Dombroski, "Iron(II) EDTA Used to Measure the Helical Twist Along Any DNA Molecule," <i>Science</i> , 230:679-681 (1985).	
HCC	184	Turro, N. J., et al., "Molecular Recognition and Chemistry in Restricted Reaction Spaces. Photophysics and Photoinduced Electron Transfer on the Surfaces of Micelles, Dendrimers, and DNA," <i>Acc. Chem. Res.</i> , 24:332-340 (1991).	

Examiner Signature		Date Considered	5/25/04
--------------------	--	-----------------	---------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English Language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.